

Integrated Stereo Amplifier

Operating Instructions

TA-F530ES/F222ESR
TA-F630ESD/F303ESD
TA-F730ES/F333ESR

English

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

FOR THE CUSTOMERS IN CANADA

This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulations.

CAUTION:

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

NOTICE FOR THE CUSTOMERS IN THE UNITED KINGDOM

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral

Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows: The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Precautions

- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the plug out by the cord.
- Avoid installing or leaving the unit in a location:
 - near heat sources such as radiators, airducts or heaters
 - subject to direct sunlight
 - exposed to rain or moisture
 - where it is liable to come into contact with dust or dirt
 - that is unventilated, such as a bookcase
- Should any liquid or solid object fall into the component, unplug the stereo system and have the component checked by qualified personnel before operating it any further.
- AC power cord must be changed only at the qualified service shop.

For TA-F730ES/F303ESR

- To detach the side panels, first disconnect the power cord from the wall outlet. Remove the screws on both sides to remove the panels and fasten the supplied screws into the holes on the main unit. (U.K. models does not come with the wooden side panels and the screws.)

If you have any question or problem concerning your unit that is not covered in this manual, please consult your nearest Sony dealer.

Operating Voltage

Before connecting the unit to an AC outlet, be sure that the operating voltage of your unit is identical with that of your local power supply.

Canada	Operates on 120 V AC, 60 Hz
European countries	Operates on 220 V AC, 50/60 Hz.
United Kingdom	Operates on 240 V AC, 50 Hz.
Other countries	Operates on either 120 V, 220 V or 240 V AC, 50/60 Hz. The voltage selectors is located on the rear panel. If the selector must be reset, disconnect the AC power cord and turn the selector with a coin so that the arrow mark of the selector points to the proper voltage figure.

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Features

- Rigid chassis, named "Gibraltar" reduces distortion caused by vibrations.
- Spontaneous twin drive power circuit assures powerful reproduction.
- Tone control consists of only passive elements to minimize the deterioration of tone quality.
- Source direct switch is employed to reproduce high fidelity sound.
- Super legato linear system of the power amplifier assures high power output.

For TA-F530ES/F222ESR/F730ES/F333ESR

- Adapter jacks are provided for the connection of an equipment such as graphic equalizer.
- Direct in jacks are provided for the pure reproduction of the program source.

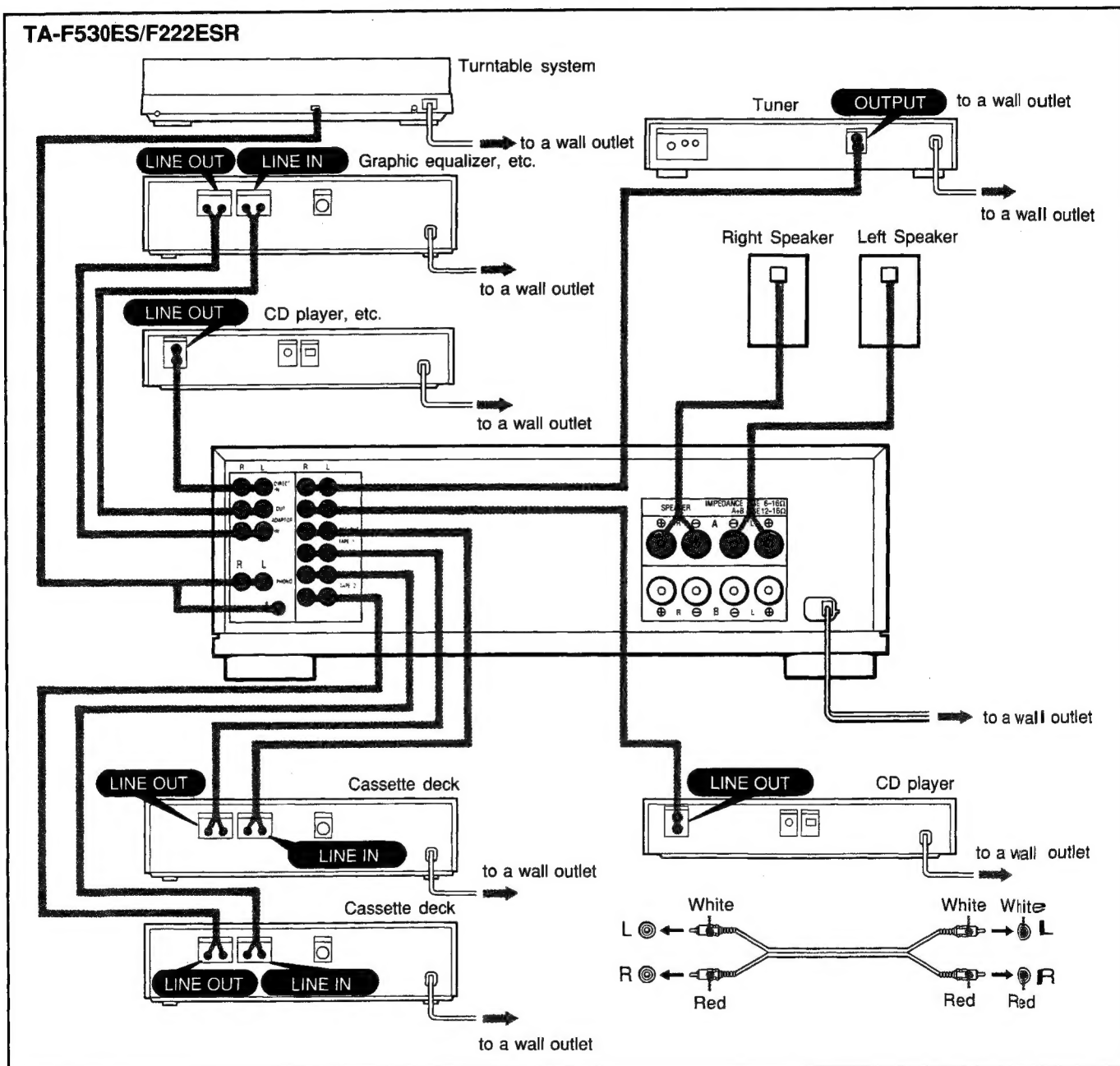
For TA-F630ESD/F303ESD

- PDM-DA converter provides three systems of optical and coaxial input jacks.

System Connections

Connection Notes

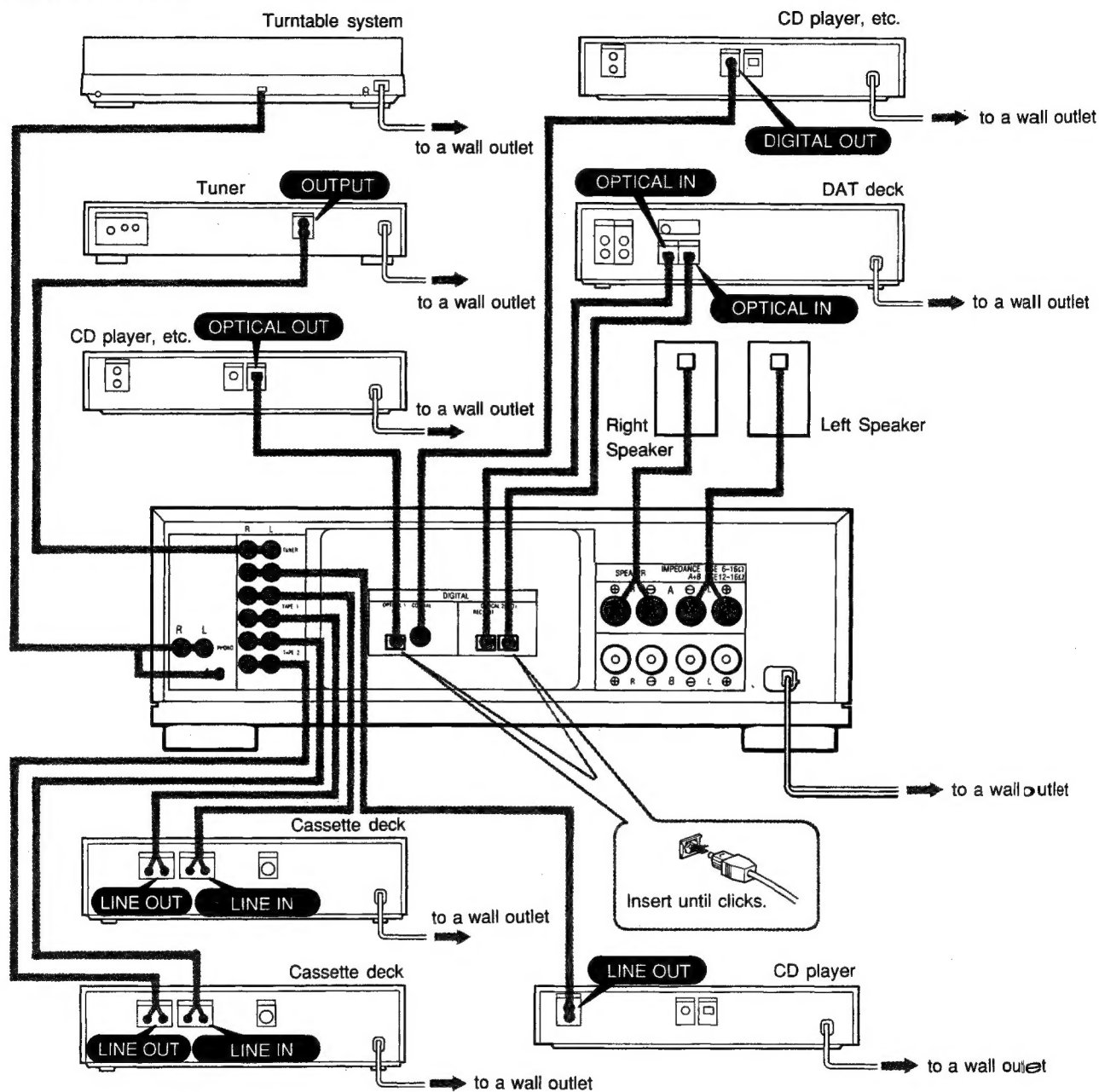
- The power cord should be connected last of all, first making sure that the POWER switch is turned off.
- The cable connectors should be fully inserted into the jacks.
A loose connection may cause hum and noise.
- Cord plugs and jacks are color coded. Red plugs and jacks are for right-channel and white ones for left-channel.



To enjoy purer sound (TA-F530ES/F222ESR/F730ES/F333ESR only)
Connect CD player or tuner to the DIRECT IN jacks. DIRECT IN circuitry bypasses the INPUT SELECTOR and REC OUT SELECTOR so the

signal is sent directly to the amplifier. Note that the program source input through DIRECT IN jacks cannot be processed through an adapter nor be output through REC OUT jacks.

TA-F630ESD/F303ESD



Notes on digital connection (TA-F630ESD/F303ESD only)

- Never connect digital signal to the analog input (PHONO, TUNER, CD, or TAPE) of the amplifier, as this can cause damage to the amplifier and/or speaker system.
- To connect the DAT deck with analog system, always use the TAPE 2 (DAT) jacks of the amplifier. If the DAT deck is connected to TAPE 1 jacks and digital input source is selected, a signal loop is created

between the amplifier and DAT deck and may damage the units.

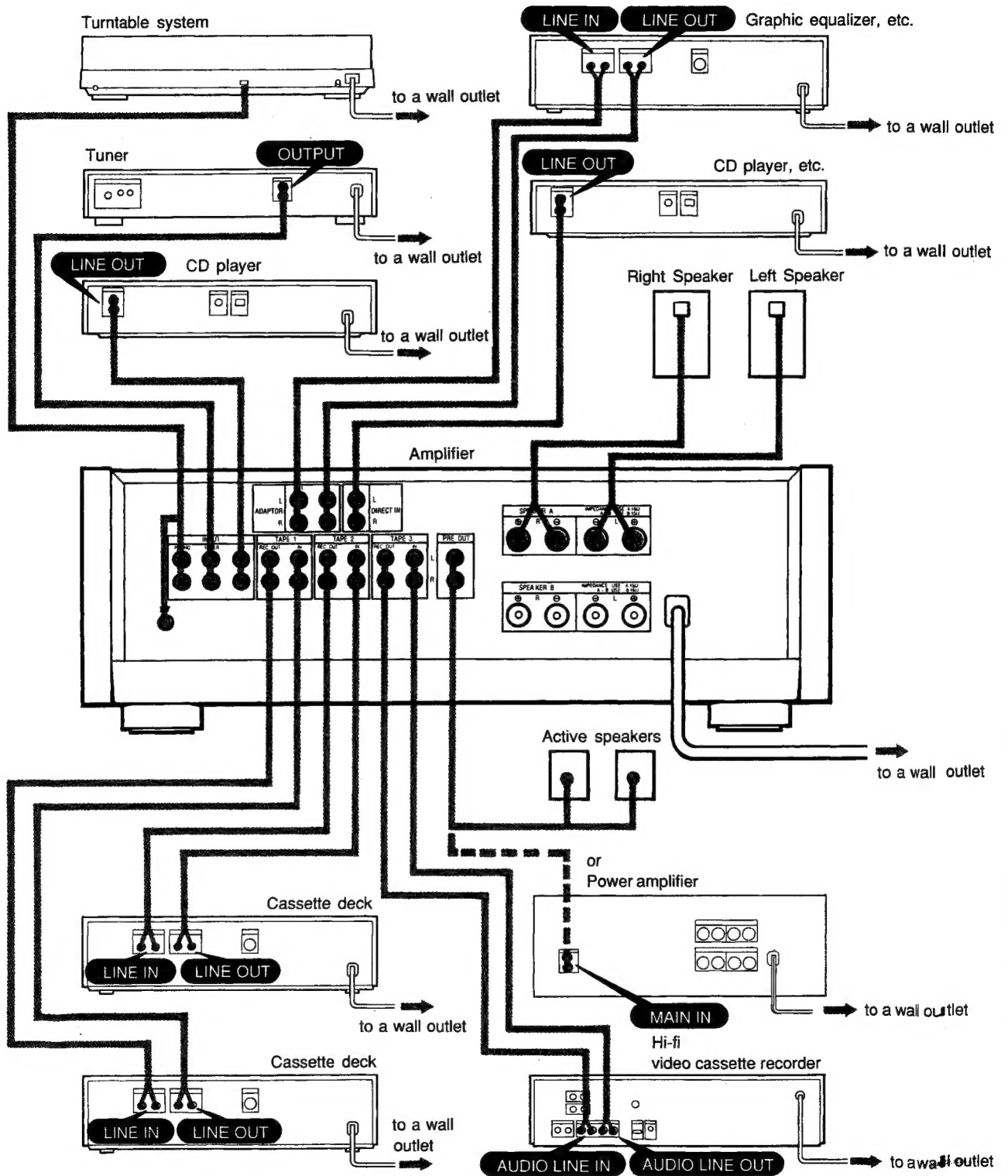
- When your digital audio equipment is provided with a optical/coaxial output selectors, be sure to set the selectors according to the connections.

To record program source with DAT deck

Connect DAT deck to TAPE 2 jacks. Recording cannot be done from the OPTICAL 2 (DAT) jacks.

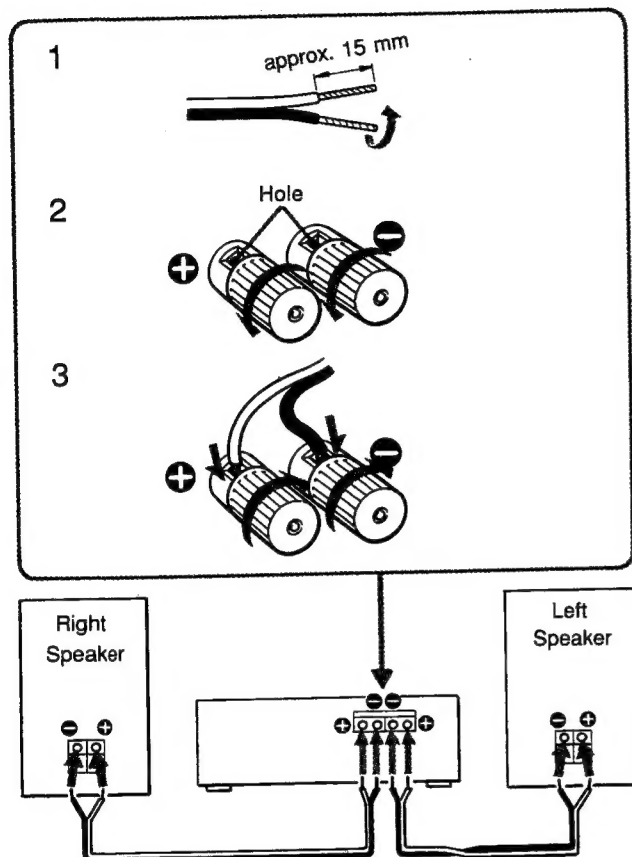
System Connections

TA-F730ES/F333ESR



Speaker Connection

This unit has provision for two pairs of speaker systems, system A and system B, which can be selected individually or simultaneously by means of the SPEAKERS selector.



Speaker cord connection

See the figure.

- 1 Strip the outer covering and twist the wires.
- 2 Loosen the terminal screw, fully insert the twisted wires into the hole.
- 3 Tighten the screw.
Pull the speaker cord slightly to confirm if the connection is secure.

Generally speaker cords are coded with color or mark, indicating the $\oplus\ominus$ polarities. Remember the coding and prevent faulty connections.

Right speaker: to R SPEAKER terminal
Left speaker: to L SPEAKER terminal
 \oplus code: for \oplus connection
 \ominus code: for \ominus connection

Power Connection

The AC outlet on the rear supplies power to other audio components whose total power consumption is 100 watts or less.

Do not connect any electrical home appliances such as an electric iron, fan, TV or other high-wattage equipment to these AC outlets.

For the models available in Europe and U.K.

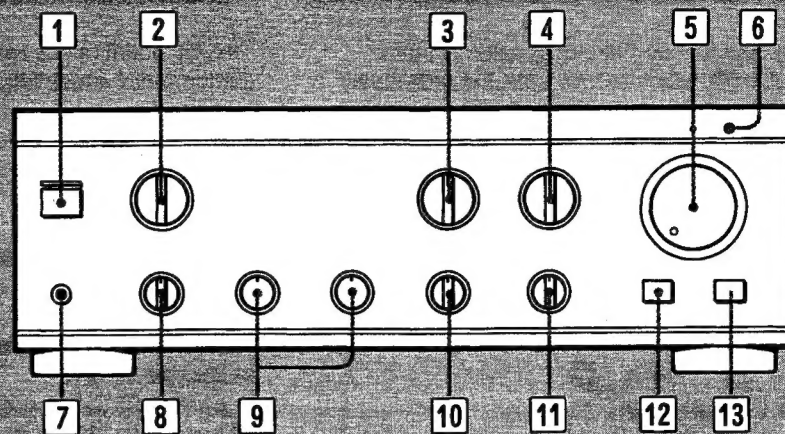
The outlet is controlled by the front panel POWER switch.

Caution for the models available in countries other than in Europe or U.K.

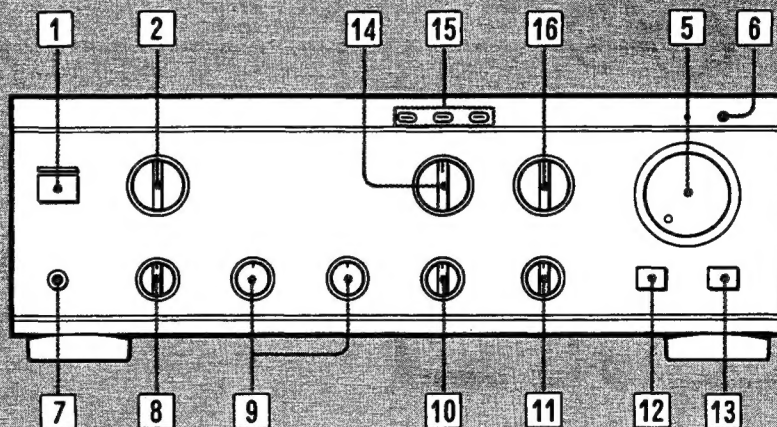
The UNSWITCHED outlets remain live, independently of power switch setting, at all times when the unit is connected to the AC power supply.

Function of Controls

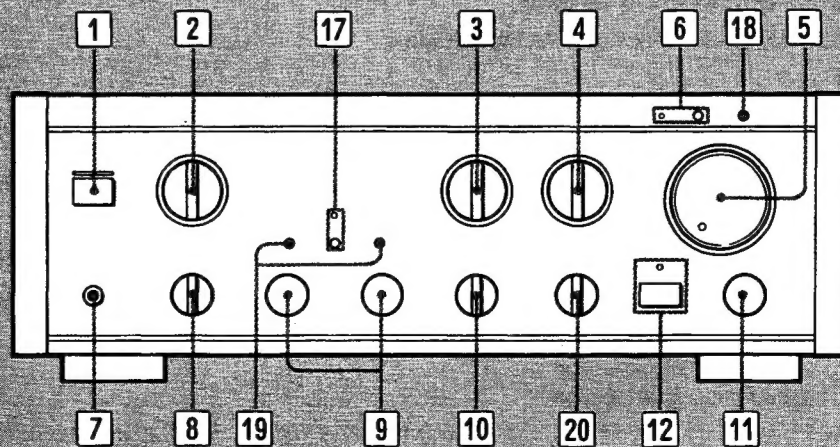
TA-F530ES/222ESR



TA-F630ESD/F303ESD



TA-F730ES/F333ESR



1 POWER switch and power/standby indicator

Immediately after turning ON the power, the standby indicator lights in red as the built-in muting circuit activates.

When the amplifier stays in a stable operating condition, the indicator lights in green.

The indicator lights in red when the unit detects shorting of circuit of the speaker outputs or in case of short-circuit of the inputs of DC components.

In such a case, disconnect the power source and check the connected components and speaker systems.

2 SPEAKERS selector

Select speaker system A or B, or both.

To use power amplifier or active speaker system connected to the PRE OUT jacks, set the selector to B/ PRE OUT (TA-F730ES/F333ESR only).

For headphone monitoring only, set the selector to OFF.

3 ADAPTOR/DIRECT IN switch (TA-F530ES/F222ESR/F730ES/F333ESR only)

Set to NORMAL to select program source by INPUT SELECTOR. To listen to a program source processed through adaptor (graphic equalizer, for example) connected to ADAPTOR jacks, set the selector to ADAPTOR.

To listen to a program source connected to DIRECT IN jacks, set it to DIRECT IN.

Note that selecting ADAPTOR has no effect upon the signals output through the REC OUT jacks.

4 INPUT SELECTOR (TA-F530ES/F222ESR/F730ES/F333ESR only)

Selects the desired program source.

5 ATTENUATOR knob

Regulates the sound level.

6 MUTING switch and indicator

Generally, keep the switch released (OFF).

Depress the switch to reduce the sound level by 20 dB. (Output voltage becomes 1/10.)

7 HEADPHONES jack (stereo phone jack)

8 MODE selector

STEREO: For listening to a stereo program.

MONO: For listening to a monaural program.

9 BASS and TREBLE controls

10 REC OUT SELECTOR

Selects the program source sent to the REC OUT jacks (rear panel).

When set to DIGITAL, the selection is made with the DIGITAL INPUT SELECTOR. (TA-F630ESD/F303ESD only)

11 BALANCE control

Controls the sound level of left and right speakers.

12 SOURCE DIRECT switch and indicator

Depress the switch. The red indicator lights and the circuits of the tone control, subsonic filter switch (TA-F730ES/F333ESR), balance control and mode switch are disengaged without regard to the setting of the switches. When this switch is activated, the indicator of the TONE switch does not light. (TA-F730ES/F333ESR only)

13 CARTRIDGE selector (TA-F530ES/F222ESR/F630ESD/303ESD only)

Set the selector according to your cartridge.

MM: For moving-magnet type cartridge

MC: For moving-coil type cartridge

14 DIGITAL INPUT SELECTOR (TA-F630ESD/F303ESD only)

Selects the desired digital program source. When set to ANALOG, selection is made with the ANALOG INPUT SELECTOR.

15 SAMPLING FREQ (frequency) indicator (TA-F630ESD/F303ESD only)

When a digital signal is being input correctly, the sampling frequency of the signal is displayed (44.1 kHz is displayed when CD player is being played).

The indicator lights in a second after the DIGITAL INPUT is selected and the program source starts at the same time.

16 ANALOG INPUT SELECTOR (TA-F630ESD/F303ESD only)

Selects the desired analog program source. The selection is made only when the DIGITAL INPUT SELECTOR is set to ANALOG.

17 TONE switch and indicator (TA-F730ES/F333ESR only)

Depress the switch to activate the tone control circuit.

Red indicator lights.

18 SUBSONIC filter switch (TA-F730ES/F333ESR only)

Depress the switch to reduce unwanted noise components of less than 15 Hz, which cause modulation noise.

19 TURNOVER frequency selection switches (TA-F730ES/F333ESR only)

Switch the turnover frequency.

20 CARTRIDGE LOAD selector (TA-F730ES/F333ESR only)

Set the selector according to your cartridge.

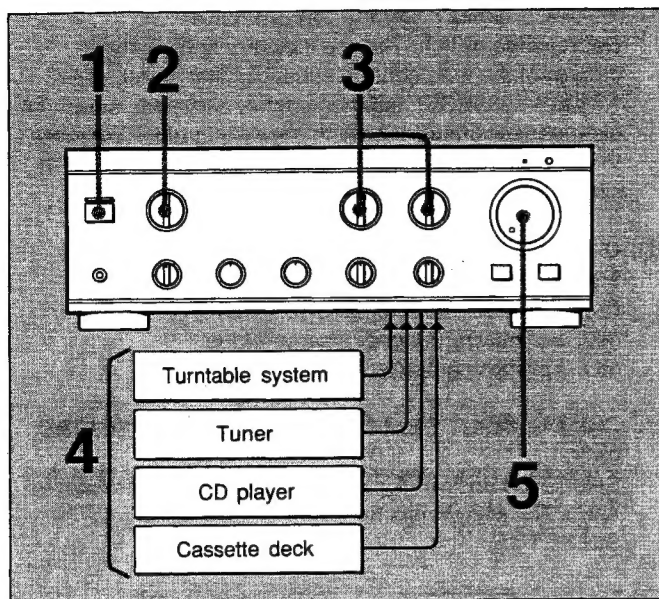
MM: For moving-magnet type cartridge

MC: For moving-coil type cartridge

40 Ω : For a cartridge with an impedance of 40 ohms or more.

3 Ω : For a cartridge with an impedance of 3 ohms to 40 ohms.

To Listen to an Audio Program Source



- 1 Turn ON the power of the unit and the connected audio components.**
(Be sure to confirm that the power/standby indicator turns to green from red.)
- 2 Select the speaker system with the SPEAKERS selector.**
- 3 Select the desired program source**
(See the diagram on the right)
- 4 Play the program source.**
- 5 Adjust the sound level with the ATTENUATOR knob.**

Tone Quality Adjustment

Tone control

The specified tone control characteristics described in "Specifications" can be obtained when the ATTENUATOR knob is set to less than 20 dB.

(Normally, the ATTENUATOR knob is set to less than 20 dB.)
When the setting of the ATTENUATOR knob approaches 0 dB, the tone control curve gets an almost flat shape.

When the SOURCE DIRECT switch is turned on (the SOURCE DIRECT indicator lights), the tone controls do not activate.

For TA-F730ES/F333ESR

The TURNOVER switches and the BASS and TREBLE controls are engaged with the TONE switch. Then, these switches and controls activate only when the TONE switch is turned on (the TONE indicator lights).

Left TURNOVER switch: Controlled by the BASS control

□ : Turnover frequency at less than 400 Hz

▴ : Turnover frequency at less than 200 Hz

Right TURNOVER switch: Controlled by the TREBLE control

□ : Turnover frequency at more than 3 kHz

▴ : Turnover frequency at more than 6 kHz

BASS and TREBLE controls

Increase or decrease the bass or treble tone of the frequency set by the TURNOVER switch.

Subsonic filter (TA-F730ES/F333ESR only)

If subsonic noise components created by warped records, etc. are present, the audible range frequencies may be modulated and cause irritating intermodulation distortion. In this case, set the SUBSONIC filter switch to ON.

Caution

High level setting of the ATTENUATOR knob causes speaker damage.

Note on digital input (TA-F630ESD/F303ESD only)

While listening to a digital program source. Momentary loss of the sound may occur caused by the noise from static electricity or electric home appliances.

This is executed by the protective circuit (muting) of the DA converter and not a malfunction of the unit.

The selection of program source

TA-F530ES/F222ESR

Program source	INPUT SELECTOR	ADAPTOR/DIRECT IN switch
For listening to record program*	PHONO	NORMAL
For listening to FM or AM (MW or LW) program	TUNER	NORMAL
For listening to CD	CD	NORMAL
For listening to taped program connected to TAPE 1 input jacks	TAPE 1	NORMAL
For listening to taped program connected to TAPE 2 (DAT) input jacks	TAPE 2 (DAT)	NORMAL
For listening to program source connected to DIRECT IN jacks	—	DIRECT IN
For listening to program source processed through adaptor	Desired program source	ADAPTOR

TA-F630ESD/F303ESD

Program source	ANALOG INPUT SELECTOR	DIGITAL INPUT SELECTOR
For listening to digital program source connected to OPTICAL 1 IN jacks	—	OPTICAL 1
For listening to Taped digital program source connected to OPTICAL 2 (DAT) IN jacks	—	OPTICAL 2 (DAT)
For listening to digital program source connected to COAXIAL IN jacks	—	COAXIAL
For listening to record program*	PHONO	ANALOG
For listening to FM or AM (MW or LW) program	TUNER	ANALOG
For listening to taped program connected to TAPE 1 input jacks	TAPE 1	ANALOG
For listening to taped program connected to TAPE 2 (DAT) input jacks	TAPE 2 (DAT)	ANALOG

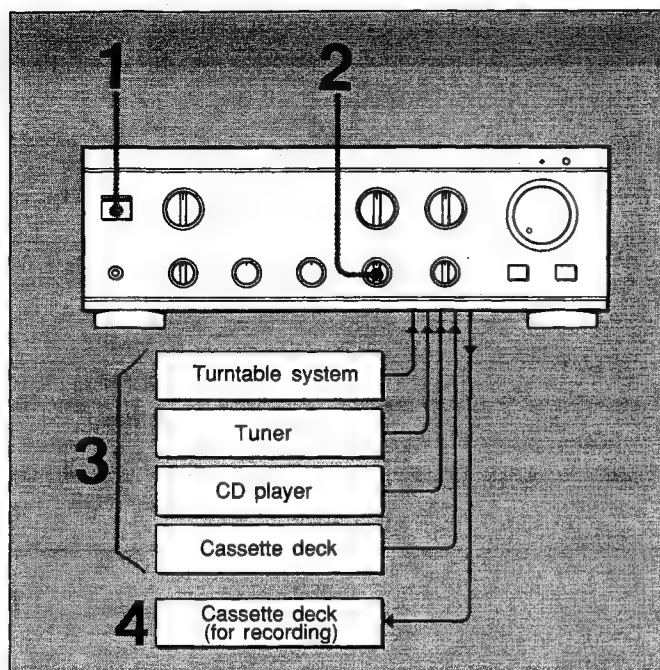
* Set CARTRIDGE selector according to the cartridge type of your turntable system.

TA-F730ES/F333ESR

Program source	INPUT SELECTOR	ADAPTOR/DIRECT IN switch
For listening to record program**	PHONO	NORMAL
For listening to FM or AM (MW or LW) program	TUNER	NORMAL
For listening to CD	CD	NORMAL
For listening to taped program connected to TAPE 1 input jacks	TAPE 1	NORMAL
For listening to taped program connected to TAPE 2 input jacks	TAPE 2	NORMAL
For listening to taped program connected to TAPE 3 input jacks	TAPE 3	NORMAL
For listening to program source connected to DIRECT IN jacks	—	DIRECT IN
For listening to program source processed through adaptor	Desired program source	ADAPTOR

** Set the CARTRIDGE LOAD selector according to the cartridge being used.

Tape Recording



- 1 Turn ON the power of the unit and the connected equipment.**
(Be sure to confirm that the power/standby indicator is turned to green from red.)
- 2 Select desired program source for recording.**
(See the diagram on the right.)
- 3 Play the program source to be recorded.**
- 4 Set the cassette deck in the recording mode.**

Tape Dubbing

For TA-F530ES/F222ESR/F730ES/F333ESR

The program source selected by the REC OUT SELECTOR is simultaneously output through all systems of the REC OUT jacks.

When units such as tape recorders and a hi-fi video cassette recorder are connected to the REC OUT jacks of the TAPE 1, 2 (and 3) and the units are set in recording mode, the same program source can be recorded on all the units at the same time.

For TA-F630ESD/303ESD

When the REC OUT SELECTOR is set to DIGITAL and DIGITAL INPUT SELECTOR to OPTICAL 1 or COAXIAL, the program source is simultaneously output through all the REC

OUT jacks. For other selected program source, the signal is output through REC OUT jacks of the TAPE 1 and TAPE 2 simultaneously.

Note for TA-F730ES/F333ESR

Tape dubbing from the tape recorder connected to TAPE 1 to the recorders connected to TAPE 2 and 3 can not be performed.

Note for TA-F630ESD/F303ESD

Following tape dubbing can only be performed: OPTICAL 2 (DAT) to TAPE 1, TAPE 1 to TAPE 2, and TAPE 2 to TAPE 1.

Digital dubbing from CD player to DAT deck cannot be performed.

Monitoring While Recording

When a 3-head tape recorder is used, the recording result (playback sound) can be monitored while recording.

When the recording is performed on the tape recorder connected to the jacks of TAPE 1, the recording sound can be monitored by setting the INPUT SELECTOR to TAPE 1.

Notes on Output

These units are provided with two separate circuits for recording output signals (through the REC OUT jacks) and for speaker (headphones) output signals.

The settings of sound level and tone quality controls have no effect on the recording. (In case the MODE selector is set to MONO or a program source having a high output impedance is connected to the unit, monaural signals will be output for recording.)

While recording a program source, you can enjoy another sound source by setting the INPUT SELECTOR (and DIGITAL INPUT SELECTOR). As to the operations, see page 10.

Selection of program source to be recorded

TA-F530ES/F222ESR

Program source to be recorded	REC OUT SELECTOR
Record program*	PHONO
Radio program	TUNER
CD program	CD
Program connected to the input jacks of the TAPE 1	TAPE 1 → 2
Program connected to the input jacks of the TAPE 2 (DAT)	TAPE 2 → 1

TA-F630ESD/F303ESD

Program source to be recorded	REC OUT SELECTOR	DIGITAL INPUT SELECTOR
Program connected to OPTICAL 1 IN jacks	DIGITAL	OPTICAL 1
Program connected to OPTICAL 2 (DAT) IN jacks	DIGITAL	OPTICAL 2 (DAT)
Program connected to COAXIAL IN jacks	DIGITAL	COAXIAL
Record program*	PHONO	—
Radio program	TUNER	—
CD program	CD	—
Program connected to TAPE 1 input jacks	TAPE 1 → 2	—
Program connected to TAPE 2 (DAT) input jacks	TAPE 2 → 1	—

TA-F730ES/F333ESR

Program source to be recorded	REC OUT SELECTOR
Record program*	PHONO
Radio program	TUNER
CD program	CD
Program connected to the input jacks of TAPE 2	TAPE 2 → 1, 3
Program connected to the input jacks of TAPE 3	TAPE 3 → 1, 2

* To record a record program, be sure to set the CARTRIDGE selector or CARTRIDGE LOAD selector to the appropriate position.

Specifications

Amplifier section

Item	Condition		Data	
			TA-F530ES/F222ESR TA-F630ESD/F303ESD	TA-F730ES/F333ESR
Continuous RMS power outut (both channels driven simultaneously)	4 ohms, 20 Hz-20 kHz THD 0.008%	Countries other than North European countries	120 W + 120 W (THD 0.01%) (DIN: 160 W + 160 W)	145 W + 145 W (THD 0.008%) (DIN: 185 W + 185 W)
	6 ohms, 20 Hz-20 kHz THD 0.006%	Countries other than North European countries	100 W + 100 W (DIN: 120 W + 120 W)	125 W + 125 W (DIN: 150 W + 150 W)
		North European countries	95 W + 95 W (DIN: 115 W + 115 W)	120 W + 120 W (DIN: 140 W + 140 W)
	8 ohms, 20 Hz-20 kHz THD 0.004%	Countries other than North European countries	90 W + 90 W (DIN: 110 W + 110 W)	110 W + 110 W (DIN: 130 W + 130 W)
		North European countries	80 W + 80 W (DIN: 100 W + 100 W)	105 W + 105 W (DIN: 115 W + 115 W)
			10 Hz - 100 kHz at 45 W	10 Hz - 100 kHz at 50 W
Power band width (IHF)	8 ohms, THD 0,02%			
Dynamic headroom (*78 IHF)	4 ohms		2 dB	3 dB
	8 ohms		1.2 dB	2 dB
Total harmonic distortion	8 ohms, at 10 watt output		0.003%	0.002%
Intermodulation (IM) distortion 60 Hz: 7 kHz = 4:1	4 ohm, at rated output		0.008%	
	6 ohms at rated output		0.006%	
	8 ohms at rated output		0.004%	
Damping factor	8 ohms, 1 kHz		50	100
Residual noise	network A		less than 90µV	less than 115µV
Frequency response	PHONO MM		RIAA equalization curve ±0.2 dB	
	TUNER, CD, TAPE 1, 2, 3, DIRECT IN		2 Hz - 200 kHz ± 0.3 dB	
Input sensitivity	PHONO	MC	0.17 mV, 100 ohms.	3 ohms 0.17 mV, 100 ohms
				40 ohms 0.17 mV, 1 kohm
		MM	2.5 mV, 50 kohms	
	TUNER, CD, DIRECT IN, TAPE 1, 2, 3 ADAPTOR IN		150 mV, 50 kohms	
S/N (network) *78 (IHF)	PHONO	MC	68 dB 76 dB* (A)	
		MM	80 dB 87 dB* (A)	
	TUNER, CD, DIRECT IN, TAPE 1, 2, 3 ADAPTOR IN		84 dB 105 dB* (A)	
Output voltage impedance	REC OUT 1, 2, 3 ADAPTOR OUT		150 mV, 1 kohm	PREOUT 1.0 V, 10 ohms
	HEADPHONES		25 miliwatts (at 8 ohms) Accepts low and high impedance headphones.	
Tone controls	BASS, at 100 Hz		±6 dB (turnover freq. 400 Hz)	+4 -5.5 dB (turnover freq. 200 Hz)
				+6 -7 dB (turnover freq. 400 Hz)
	TREBLE, at 10 kHz		±6 dB (freq. 4 kHz)	+7 -8 dB (freq. 3 kHz)
				+4 -5 dB (freq. 6 kHz)
SUBSONIC filter	—		—	6 dB/octave attenuation below

DA converter section (TA-F630ESD/F303ESD)

Item	Condition	Data
Input sensitivity	DIGITAL COAXIAL IN	0.5 Vp-p, $\pm 20\%$, 75 ohms
	DIGITAL OPTICAL IN 1, 2	TOSLINK
Output voltage impedance	DIGITAL OPTICAL 2 REC OUT	TOSLINK
Output voltage	DA converter	2 V

General

System Preamplifier section: Low-noise high gain NFB type equalizer amplifier, passive type direct tone control
Power amplifier section: Pure-complementary SEPP power amplifier

Power requirements

European model: 220 V AC, 50 Hz
U.K. model: 240 V AC, 50 Hz
Models for other countries: 120 V, 220 V or 240 V AC adjustable, 50/60 Hz

Power consumption

	TA-F530ES/F222ESR TA-F630ESD/F303ESD	TA-F730ES/F333ESR
Canada	510 VA	—
North European countries	220 W	260 W
U.K.	600 W	800 W
Other countries	340 W	370 W

AC outlet

	TA-F530ES/F222ESR TA-F630ESD/F303ESD	TA-F730ES/F333ESR
Canada	2 switched, 1 unswitched, 100 watts max. each	—
U.K. and European countries	—	1 switched, 100 watts max.
Other countries	1 switched, 1 unswitched, 100 watts each	1 switched, 1 unswitched, 100 watts each

Dimensions

TA-F530ES/F222ESR: Approx. 430 x 150 x 370 mm (w/h/d)
(18 $\frac{1}{2}$ x 5 $\frac{7}{8}$ x 14 $\frac{9}{16}$ inches)
TA-F630ESD/F303ESD: Approx. 430 x 150 x 390 mm (w/h/d)
(18 $\frac{1}{2}$ x 5 $\frac{7}{8}$ x 15 $\frac{3}{8}$ inches)
TA-F730ES/F333ESR: (except for U.K. model):
Approx. 470 x 166 x 436 mm (w/h/d)
(18 $\frac{1}{2}$ x 6 $\frac{5}{8}$ x 17 $\frac{1}{4}$ inches)
U.K. model: Approx. 430 x 165 x 435 mm (w/h/d)
(17 x 6 $\frac{1}{2}$ x 17 $\frac{1}{8}$ inches)

Weight

TA-F530ES/F222ESR: Approx. 13.5 kg (29 lbs 13 oz) net
TA-F630ESD/F303ESD: Approx. 13.7 kg (30 lbs 4 oz) net
TA-F730ES/F333ESR: Approx. 21.2 kg (46 lbs 12 oz) net (except for U.K. model)
Approx. 19.9 kg (43 lbs 14 oz) net (U.K. model)

Supplied accessories Screws (8) (TA-F730ES/F333ESR except for U.K. model only)

Design and specifications subject to change without notice.

Note

This appliance conforms with EEC directives 76/889 and 82/499 regarding interference suppression.

Troubleshooting

Should any problem persist after you have made these checks, consult your nearest Sony dealer.
Before going through the check list below, first refer back to the connection and operating procedures.

No Audio

Faulty connection	Connect the audio system correctly. See pages 4-6.
The SPEAKERS selector is set to OFF.	Set the selector to the appropriate position.
The INPUT SELECTOR is not correctly set.	Set it correctly.
The ADAPTOR/DIRECT IN switch is set to ADAPTOR when the ADAPTOR jacks are not used.	Set the ADAPTOR/DIRECT IN switch to NORMAL.
The equipment connected to the ADAPTOR jack is not turned ON.	Set the ADAPTOR/DIRECT IN switch to NORMAL or DIRECT IN or turn on the connected equipment.

No Audio from One Channel or Unbalanced Left and Right Sound Level

Incorrect setting of the BALANCE control	Adjust it correctly.
One end of the speaker cords or connecting cords is removed.	Connect the cords correctly.

No Audio and the Power/Standby Indicator Lights in Red

Short circuit of speaker cords	Check the speaker cords.
The amplifier is too heated.	Install the amplifier in a place where there is good air circulation.

Lack of Bass Sound or Obscure Instrument Position

Mal-setting of sound quality controls	Adjust the controls for sound quality.
Faulty setting of the CARTRIDGE (LOAD) selector	Set it correctly.
Improper phasing of speaker connection	Connect the speakers for proper phasing.

Distorted Sound

Improper input signal	Check the equipment being played. For details, refer to the instruction manual of each equipment.
Input capacity of speakers is excessively small.	Lower the sound level.

Severe Hum or Noise

Noise from TV unit, etc.	Keep the connecting cords away from transformers or motors, TV unit and fluorescent lights.
Faulty connection of turntable system	Ground the turntable system.